

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A radiation source comprising an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate electromagnetic radiation, wherein a wicking surface area of a wall defining said discharge space is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area.
2. (Original) A radiation source according to claim 1, wherein said wicking surface area is provided on at least one of said anode and said cathode.
3. (Original) A radiation source according to claim 1, wherein a cooling surface area of a wall defining said discharge space is provided with cooling to condense vaporized liquid from said discharge space to transfer heat from said discharge space to said cooling surface.
4. (Original) A radiation source according to claim 1, wherein a material comprised in said liquid is used in creating said plasma.
5. (Currently Amended) A radiation source according to claim 1, wherein said discharge space is provided with an elongated extension space, a ~~said~~ cooling surface area provided on a wall of said extension space at a distance from a central region of said radiation source.
6. (Original) A radiation source according to claim 1, wherein said radiation source comprises an energetic beam to irradiate said wicking surface area proximate said discharge space.
7. (Original) A radiation source according to claim 6, wherein said energetic beam is a beam of charged particles.

8. (Original) A radiation source according to claim 6, wherein said energetic beam is a laser beam.

9. (Original) A radiation source according to claim 1, wherein said liquid comprises an element selected from the group consisting of: xenon (Xe), tin (Sn), lithium (Li), indium (In) and iridium (Ir).

10. - 16. (Canceled)

<sup>15</sup>  
~~17~~. (Original) A lithographic projection apparatus comprising:

a radiation system comprising an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate a projection beam of radiation, wherein a wicking surface area of a wall defining said discharge space is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area;

a support structure configured to hold a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;

a substrate table configured to hold a substrate; and

a projection system configured to project the patterned beam onto a target portion of the substrate.

<sup>16</sup>  
~~18~~. (Original) A lithographic apparatus according to claim ~~17~~<sup>16</sup>, wherein said wicking surface area is provided on at least one of said anode and said cathode.

<sup>17</sup>  
~~19~~. (Original) A lithographic apparatus according to claim ~~17~~<sup>16</sup>, wherein a cooling surface area of a wall defining said discharge space is provided with cooling to condense vaporized liquid from said discharge space to transfer heat from said discharge space to said cooling surface.

20. - 25. (Canceled)

<sup>10</sup>  
~~26~~. (New) A radiation source according to claim 1, further comprising a hollow receptacle arranged on an optical axis of said radiation source, an open end of said receptacle directed to said discharge space to capture contamination emitted from said discharge space.

<sup>11</sup>  
~~27~~. (New) A radiation source according to claim <sup>10</sup>~~26~~, wherein said receptacle is configured to be cooled to enhance trapping of contamination on inside walls of said receptacle.

<sup>12</sup>  
~~28~~. (New) A radiation source according to claim 1, further comprising an aperture provided in said anode or said cathode through which said electromagnetic radiation is emitted, said aperture comprising a plurality of electrically-conductive structures arranged so as to leave said aperture substantially open to said radiation but to substantially close said aperture electrically.

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<sup>13</sup>  
~~29~~. (New) A radiation source according to claim <sup>12</sup>~~28~~, wherein said structures are configured to be cooled.

<sup>14</sup>  
~~30~~. (New) A radiation source according to claim 1, comprising at least one closed heat pipe.

<sup>18</sup>  
~~31~~. (New) A radiation source comprising an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate electromagnetic radiation, wherein a wicking surface area of a wall defining said discharge space is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area, said anode, said cathode, or both being substantially vertically located above the liquid reservoir.

<sup>19</sup>  
~~32~~. (New) A lithographic projection apparatus, comprising:  
a radiation system comprising an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate a projection beam of radiation, wherein a wicking surface area of a wall defining said discharge space is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking

surface area, said anode, said cathode, or both being substantially vertically located above the liquid reservoir;

a support structure configured to hold a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;

a substrate table configured to hold a substrate; and

a projection system configured to project the patterned beam onto a target portion of the substrate.

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33. (New) A lithographic projection apparatus comprising:

a radiation system, comprising:

an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate a projection beam of radiation,

an aperture provided in said anode or said cathode through which said projection beam of radiation is emitted, said aperture comprising a plurality of electrically-conductive structures arranged so as to leave said aperture substantially open to said projection beam of radiation but to substantially close said aperture electrically, and

a wicking surface area of a wall defining said discharge space configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area;

a support structure configured to hold a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;

a substrate table configured to hold a substrate; and

a projection system configured to project the patterned beam onto a target portion of the substrate.

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34. (New) A lithographic projection apparatus, comprising:

a radiation system, comprising:

a radiation source comprising an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate a projection beam of radiation and a wicking surface area of a wall defining said discharge space configured to transport

a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area, and

a hollow receptacle arranged on an optical axis of the radiation source, an open end of the receptacle directed to the radiation source to capture contamination emitted from the radiation source;

a support structure configured to hold a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;

a substrate table configured to hold a substrate; and

a projection system configured to project the patterned beam onto a target portion of the substrate.

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35. (New) A radiation source, comprising:

an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate electromagnetic radiation;

a wicking surface area of a wall defining said discharge space that is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area; and

an elongated extension space of the discharge space, a cooling surface area of a wall defining said extension space configured to be cooled by a cooler to condense vaporized liquid from said discharge space and provided at a distance from a central region of said radiation source.

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36. (New) A lithographic projection apparatus comprising:

a radiation system, comprising:

an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate a projection beam of radiation,

a wicking surface area of a wall defining said discharge space that is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area, and

an elongated extension space of the discharge space, a cooling surface area of a wall defining said extension space configured to be cooled by a cooler to condense

vaporized liquid from said discharge space and provided at a distance from a central region of said radiation system;

a support structure configured to hold a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;

a substrate table configured to hold a substrate; and

a projection system configured to project the patterned beam onto a target portion of the substrate.

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37. (New) A radiation source, comprising:

an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate electromagnetic radiation;

a wicking surface area of a wall defining said discharge space that is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area;

an isolator configured to electrically separate the anode and cathode; and

a cooler located near the isolator and configured to condense vapor to reduce contact of the vapor onto the isolator.

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38. (New) A radiation source, comprising:

an anode and a cathode that are configured and arranged to create a discharge in a substance in a discharge space between said anode and cathode and to form a plasma so as to generate electromagnetic radiation, said cathode and said anode being substantially concentric and said anode being disposed at least in part around and outside the cathode; and

a wicking surface area of a wall defining said discharge space that is configured to transport a liquid towards said discharge space from a liquid reservoir in contact with said wicking surface area.